

Remarks

Claims 1-10, 14, 18, 34-36, 47, 58, and 68 were pending in the subject application. Applicants acknowledge that claims 1-10, 14, and 68 have been withdrawn from further consideration as being drawn to a non-elected invention. By this Amendment, claims 18, 34-36, 47, and 58 have been amended, claims 1-10, 14, and 68 have been cancelled, and new claims 94-113 have been added. Support for the new claims and amendments can be found throughout the subject specification including, for example, at page 40, lines 5-28, and in the claims as originally filed. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 18, 34-36, 47, 58, and 94-113 are currently before the Examiner for consideration. Favorable consideration of the pending claims is respectfully requested.

The Examiner has objected to the sequence listing on the grounds that there is a discrepancy between the subject specification and the sequence listing. Submitted herewith is a replacement sequence listing wherein the organism for SEQ ID NOs:8 and 9 has been amended to read *Lycopersicon pennellii*. Accordingly, reconsideration and withdrawal of the objection is respectfully requested.

Claims 18, 34-36, 48, and 58 are rejected under 35 USC §112, first paragraph, as lacking sufficient written description and as non-enabled by the subject specification. The Examiner acknowledges under these rejections that there is written description and enablement for the claims with the sequences exemplified in the subject application. Applicants respectfully assert that the subject specification does provide sufficient written description and does enable the claimed invention. The subject specification teaches several sequences of polynucleotides encoding plant aromatic amino acid decarboxylase enzymes (SEQ ID NOs: 4, 6, 8, and 12). In addition, given the degeneracy of the genetic code, a person of ordinary skill in the art can readily envision all possible polynucleotide sequences that encode the amino acid sequence of any of SEQ ID NOs: 5, 7, 9, and 13, as well as those polypeptides having the recited sequence identity with any of SEQ ID NOs: 5, 7, 9, or 13. Thus, Applicants respectfully assert that a representative number of phenylalanine decarboxylase sequences have been described in the subject specification and, thus, Applicants were in possession of the claimed invention.

Moreover, Applicants respectfully assert that an ordinarily skilled artisan, having the benefit of the teachings of the subject specification, could readily isolate and/or identify phenylalanine decarboxylase encoding sequences from other plants, without resorting to undue experimentation. A person of ordinary skill in the art, having the benefit of the teachings of the subject specification, could readily isolate and/or identify polynucleotides of other plants that hybridize under stringent hybridization conditions with polynucleotides of the subject invention and that encode a polypeptide having phenylalanine decarboxylase enzymatic activity (stringent hybridization conditions are described at page 30, line 22 through to page 31, line 4 of the subject specification). Methods and materials for doing so are routine in the art and well within the skills of the ordinary artisan. Moreover, an ordinarily skilled artisan could readily prepare sequences having the recited sequence identity with an amino acid sequence of SEQ ID NO: 5, 7, 9, or 13 and determine if the sequence exhibited phenylalanine decarboxylase activity. Applicants respectfully submit that while some experimentation may be necessary, it is not controlling on the issue of undue experimentation. *Ex parte Jackson*, 217 USPQ 804, 807 (Bd. Pat. App. & Int. 1982) (“The test [for undue experimentation] is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine...”) (emphasis added).

In one aspect of the enablement rejection, the Examiner indicates that an ordinarily skilled artisan cannot reasonably predict any aromatic compound produced from a phenylalanine decarboxylase and that only a phenylalanine derived aromatic could be produced using a phenylalanine decarboxylase on the invention (citing Tieman *et al.* (2006)). Applicants respectfully note that the Tieman *et al.* publication shows that the phenylalanine decarboxylases reported therein (and which correspond to the exemplified decarboxylases of the subject invention) are more active on tyrosine as a substrate than with phenylalanine (see Table 3 in Tieman *et al.*). Thus, aromatic compounds from aromatic amino acids other than phenylalanine can be produced from the subject decarboxylases.

Thus, Applicants respectfully assert that the subject specification does provide written description and does enable the claimed invention. Accordingly, reconsideration and withdrawal of the rejections under 35 USC §112 is respectfully requested.

It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicants' agreement with or acquiescence in the Examiner's position.

In view of the foregoing remarks and amendments to the claims, Applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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DRP/mv

Attachments: Amendment Transmittal Letter
Submission of Sequence Listing and Statement under 37 CFR §§1.821-1.825
Sequence Listing on paper and computer readable format (.txt file)